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FOR IMMEDIATE RELEASE:

STUDENT RESEARCH OPPORTUNITIES A TOP PRIORITY AMONG EIU'S SCIENCES

CHARLESTON -- As far as Richard Keiter is concerned, until scientists do their own investigations, they are merely spectators.

That is why the nearly 30-year teaching veteran in Eastern Illinois University's chemistry department has become such a vocal and active advocate of student research at both the undergraduate- and graduate-student levels at EIU.

"Science students need to do original investigations," Keiter said, "just like art students need to produce paintings and English students need to write short stories. They need to experience how difficult it is to control experiments. They need to know what it's like for an experiment to fail -- sometimes over and over again!"

Most students of sciences at Eastern -- chemistry, physics, botany, earth science and zoology -- are given the opportunity to participate in supervised research either for class credit or stipends. What many don't realize, however, is that there are grant programs available to help make research opportunities for students possible. These programs require extensive proposals submitted by faculty and are generally very competitive.

Recently, Keiter hit the jackpot. A project proposal he submitted to the National Science Foundation, an agency established to promote fundamental research at colleges and universities, was approved to the tune of \$144,000 -- one of the largest NSF grants ever awarded to Eastern. This money, to be distributed over a three-year period, allowed Keiter, in part, to hire four students -- three undergraduates, one graduate -- during the summer of 1997, and will allow him to do so again in 1998 and 1999.

NSF evaluators supported Keiter's proposal based on: 1) the research project itself; 2) the

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research opportunities made available for undergraduate students through that project; and 3) the “experience and talents of the primary investigator, Professor Keiter.”

“It’s a real feather in (Keiter’s) cap,” said David Ebdon, associate dean of Eastern’s College of Sciences. “And his accomplishment demonstrates yet again the vitality of student-oriented research at Eastern Illinois University.”

To talk specifics about the professor, one needs only to look at Keiter’s list of accomplishments. “He actively publishes in the most reputable journals and collaborates with colleagues in graduate programs . . . (he) is an enthusiastic teacher who takes pride in having his students continue in high quality graduate programs,” one NSF evaluator wrote.

To talk specifics about the problem -- “Acceleration of Phosphine Exchange in Metal Carbonyl Complexes,” one needs almost to be a chemist. Terms such as “organometallic catalysis,” “phosphine molecules,” “dissociation” and “exchange reactions” are not widely used in everyday conversation. Suffice it to say, a successful breakthrough in the project itself would be of interest to catalysis chemists both in academic and industrial environments.

As for the research . . . “Students receive multiple benefits by participating in research opportunities while here at Eastern,” said Ellen Keiter, chair of Eastern’s chemistry department. “The experience itself is invaluable, as is having it on one’s academic record.”

Eastern, too, benefits. Financially, research grants such as the one from NSF include funds to be used by the university for the acquisition of state-of-the-art instructional equipment which becomes the permanent property of EIU.

And, in this case, success feeds upon success. The more research opportunities Eastern offers its students, the better reputation the university gains. And that, in turn, has reaped its own rewards.

For example, a second grant -- the Jean Dreyfus Boissevain Undergraduate Scholarship for Excellence in Chemistry, established in 1993 by the Camille and Henry Dreyfus Foundation -- was presented to Eastern’s chemistry department this past year to provide one university undergraduate with two consecutive summers of research support. According to Ellen Keiter, the department had never before received this particular award, although it has received awards through the Foundation’s Scholar/Fellow Program and its Special Grants in the Chemical Sciences Program.

"We didn't apply for this award; we received it spontaneously," Keiter said. "It is likely that we were chosen because the Foundation knows of our commitment to undergraduate research."

In this instance, the award is providing Kimberly Young, a junior chemistry/psychology major from Greenville, the opportunity to research the evolution of green algae. She works closely -- and jointly -- with faculty supervisors, Norbert Furumo (chemistry) and Chuck Pederson (botany), who are also strong proponents of student research.

"In a classroom, you learn and memorize. Research encourages creativity and resourcefulness," Furumo said. "You are trying to do something no one else knows the answer to. You have to be independent; you have to learn to concentrate. You make a lot of mistakes, and if you let it frustrate you, it will. You have to be open and responsive to change, and be persistent enough to make the appropriate changes.

"This is stuff you can't ever learn in the classroom," he added.

As for Young, "It was a summer I'll never forget," she said, recalling her activities of a few months ago. Her goal has been to become a forensic criminologist.

"I got the opportunity to work in the lab every day, and now I know that it is something I'll enjoy doing with my life," she said. She continues her research throughout the school year on a part-time basis, and will resume again full-time this coming summer.

In all, 13 EIU undergraduate students participated in chemistry department research projects in 1997 -- three for classroom credit and 10 for stipends. Those 13 were supervised by seven faculty members whose projects were in the areas of analytical, inorganic and organic chemistry, as well as biochemistry.

According to Ellen Keiter, about 60 percent of Eastern's chemistry majors participate in research projects. "It is not required, but it is highly recommended", she said, adding, "As a department, we feel the experience is invaluable. We see within these individuals the development of individual maturity, beyond that which they receive in classroom study."